AMENDMENTS TO THE CLAIMS

Please amend claims 1-31 as follows. The following listing of claims replaces all prior versions and listings of claims in this application:

1.. (Currently Amended) A method for determining a deployment level of an airbag in a vehicle, the method comprising the following steps:

(a) repeatedly capturing three-dimensional depth images of a scene that includes a region of a vehicle seat;

(b) repeatedly determining occupancy information from ~~the~~ at least one of said three-dimensional captured depth images;

(c) upon occurrence of an airbag-deployment triggering event ~~that triggers deployment of the airbag, performing~~ repeating step (a) and step (b) more frequently than before occurrence of said airbag-deployment triggering event; ~~the steps of capturing depth images of the scene and determining occupancy information more rapidly than before when deployment of the airbag is triggered;~~ and

(d) indicating ~~the~~ airbag deployment level ~~of the airbag~~ based at least in part on ~~the~~ occupancy information determined after occurrence of ~~the~~ said airbag-deployment triggering event.

2. (Currently Amended) The method of claim 1, wherein step (b) ~~determining occupancy information~~ includes determining position information of an occupant on ~~the~~ said vehicle seat.

3. (Currently Amended) The method of claim 1, wherein step (b) ~~the step of determining occupancy information~~ includes determining where a designated component of ~~the~~ said occupant is ~~in relation~~ relative to an area from which ~~the~~ said airbag is to be deployed.

4. (Currently Amended) The method of claim 3, wherein ~~the step of~~ determining where a designated component of the occupant is includes determining where at least

one of a head ~~or~~ and torso of ~~the~~ said occupant is ~~in relation to the~~ relative to said area from which ~~the~~ said airbag is to be deployed.

5. (Currently Amended) The method of claim 1, further ~~comprising the step of~~ including classifying ~~the~~ said object from at least one of said ~~one or more of the~~ captured depth Images.

6. (Currently Amended) The method of claim 5, wherein ~~the step of~~ classifying ~~the~~ said object from at least one of said ~~one or more of the~~ captured depth images is performed triggered deployment of said airbag. ~~before when deployment of the airbag is triggered.~~

7. (Currently Amended) The method of claim 6, wherein ~~the step of~~ classifying ~~the~~ said object from at least one of said ~~one or more of the~~ captured depth images is performed immediately after start-up of said vehicle ~~start up~~.

8. (Currently Amended) The method of claim 1, wherein a single occurrence of step (a) and step (b) and step (c) requires less than about 100 ms. ~~the step of performing the steps of capturing depth images of the scene and determining occupancy information more rapidly occurs of the order of less than 100 milliseconds.~~

9. (Currently Amended) The method of claim 1, wherein at least one of step (a), step (b) and step (c) ~~the step of performing the steps of capturing depth images of the scene and determining occupancy information more rapidly~~ includes capturing at least one depth image ~~one or more depth images~~ with lower resolution than was used before occurrence of said airbag-deployment triggering event. ~~the event that triggers deployment of the airbag.~~

10. (Currently Amended) The method of claim 1, wherein step (d) ~~of indicating the deployment level of the airbag based at least in part on the occupancy information~~

includes lowering ~~the~~ deployment level ~~because the~~ when said occupant is less than a maximum distance from an area from which ~~the~~ said airbag is to be deployed.

11. (Currently Amended) The method of claim 1, wherein step (d) ~~of indicating the deployment level of the airbag based at least in part on the occupancy information~~ includes maximizing ~~the~~ deployment level ~~because the~~ when said occupant is a maximum distance from an area from which ~~the~~ said airbag is to be deployed.

12. (Currently Amended) The method of claim 1, wherein step (b) ~~the step of determining occupancy information~~ includes determining a pose of ~~the~~ said occupant.

13. (Currently Amended) The method of claim 12, wherein ~~the step of~~ determining a pose of ~~the~~ said occupant includes determining whether an extremity of ~~the~~ said occupant is extended towards an area from which ~~the~~ said airbag is to be deployed.

14. (Currently Amended) The method of claim 1, wherein step (d) ~~of indicating the deployment level of the airbag based at least in part on the occupancy information~~ includes disabling airbag deployment ~~of the airbag because the~~ when said occupant is too close to ~~from~~ an area from which ~~the~~ said airbag is to be deployed.

15. (Currently Amended) A three-dimensional sensor system ~~for determining~~ to determine a deployment level of an airbag in a vehicle, the sensor system comprising::

a light source to emit ~~that emits~~ light onto a scene that includes a vehicle seat to be protected by said ~~for the~~ airbag when said vehicle seat is occupied;

an array of light-sensitive pixels disposed to capture ~~which capture~~ reflected light from ~~the~~ said scene, including ~~reflected light that originated from the~~ including light emitted by said light source, such that in at least one scene capture, three-dimensional data representing said scene are captured;

processing resources ~~that~~ to determine depth information for an object in ~~the~~ said

scene based ~~on a~~ upon at least one time-of-flight characteristic of ~~the~~ reflected light emitted by said ~~that originates from the~~ light source and ~~is~~ captured ~~on the~~ by said array, said ~~and wherein the~~ processing resources ~~are~~ configured to determine occupancy data for ~~the~~ said object based upon ~~on the captured~~ reflected light from ~~the~~ said scene captured by said array, and ~~wherein the processing resources are configured~~ to determine ~~the deployment level of the~~ airbag deployment level based at least in part upon ~~on the~~ occupancy data, responsive ~~in response~~ to receiving data indicating occurrence of a collision of ~~the~~ said vehicle ~~occurred~~.

16. (Currently Amended) The sensor system of claim 15, wherein ~~the~~ said processing resources ~~are configured to~~ communicate airbag deployment level, responsive to data indicating occurrence of a collision of said vehicle, to an airbag actuating device. ~~indicate to another device that actuates the airbag the deployment level of the airbag, in response to the data indicating the collision of the vehicle occurred.~~

17. (Currently Amended) The sensor system of claim 15, wherein ~~the~~ said light source emits ~~a~~ modulated infrared light ~~source~~.

18. (Currently Amended) The sensor system of claim 17, wherein ~~the~~ said time-of-flight characteristic includes ~~a~~ phase shift between ~~the~~ modulated light emitted from ~~the~~ said light source and ~~the~~ reflected modulated light captured ~~on the~~ by said array of light-sensitive pixels.

19. (Currently Amended) The sensor system of claim 15, wherein ~~the~~ said array of light-sensitive pixels ~~are~~ is formed on ~~part of a~~ complementary metal oxide semiconductor device.

20. (Currently Amended) The sensor system of claim 15, wherein ~~the~~ said processing resources are configured to determine occupancy classification based on

capture by said array of light-sensitive pixels of reflected light emitted by said ~~from the~~ light source ~~captured on the array of light-sensitive pixels~~.

21. (Currently Amended) The sensor system of claim 20, wherein ~~the~~ occupancy classification includes at least a first class ~~which accommodates~~ including an adult, a second class ~~which accommodates~~ including at least one of a child ~~or~~ and a child seat, and a third class representing absence of any ~~which corresponds to no~~ occupant.

22. (Currently Amended) The sensor system of claim 20, wherein ~~the~~ said sensor system determines ~~processing resources are configured to determine~~ occupancy classification based on reflected light from ~~the~~ said light source captured on ~~the~~ said array of light-sensitive pixels.

23. (Currently Amended) The sensor system of claim 15, wherein ~~the~~ said processing resources are configured to determine occupant position relative to a site from which ~~the~~ said airbag is deployed using reflected light from ~~the~~ said light source captured on ~~the~~ said array of light-sensitive pixels.

24. (Currently Amended) The sensor system of claim 21, wherein ~~the~~ said processing resources are configured to signal data indicating at least one of a partial deployment level ~~or~~ and zero deployment level based on ~~the~~ occupancy classification ~~in response to the~~ responsive to data indicating ~~the~~ collision of ~~the~~ said vehicle has occurred.

25. (Currently Amended) The sensor system of claim 23, wherein ~~the~~ said processing resources are configured to signal data indicating at least one of a partial deployment level ~~or~~ and a zero deployment level based on ~~the~~ occupancy position ~~in response to the~~ responsive to data indicating ~~the~~ collision of ~~the~~ said vehicle has occurred.

26. (Currently Amended) The sensor system of claim 23, wherein ~~the~~ said processing resources are configured to identify a tracking feature of ~~the~~ said occupant ~~in order~~ so as to track ~~the~~ said occupant relative to ~~the~~ a site from which ~~the~~ said airbag is deployed.

27. (Currently Amended) The sensor system of claim 23, wherein ~~the~~ said processing resources are configured to identify a tracking feature of ~~the~~ said occupant based on scene-reflected light ~~from the scene that is~~ captured on ~~the~~ said array of light-sensitive pixels.

28. (Currently Amended) The sensor system of claim 15, further comprising an optical filter ~~for filtering~~ to filter ambient light from reflected light in a ~~from the~~ scene ~~that is~~ captured on ~~the~~ said array of light-sensitive pixels.

29. (Currently Amended) The sensor system of claim 28, wherein ~~the~~ said optical filter is configured ~~to~~ for low incidence angles ~~so that the optical filter maintains~~ to maintain a relatively narrow interference band.

30. (Currently Amended) The sensor system of claim 20, further comprising an electrical noise reduction filter to enhance sensitivity of individual pixels in ~~the~~ said array of pixels.

31. (Currently Amended) The sensor system of claim 30, further comprising a common ~~more rest~~ common mode reset circuit coupled to said ~~that combines with the~~ array of pixels to at least reduce ~~in order to avoid~~ pixel saturation.